

[Open Peer Review on Qeios](#)

Mirabegron

National Cancer Institute

Source

National Cancer Institute. *Mirabegron*. NCI Thesaurus. Code C90633.

An orally bioavailable agonist of the human beta-3 adrenergic receptor (ADRB3), with muscle relaxing, neuroprotective and potential antineoplastic activities. Upon oral administration, mirabegron binds to and activates ADRB3, which leads to smooth muscle relaxation. Mirabegron also restores sympathetic stimulation in mesenchymal stem cell (MSC) niches, inhibits JAK2-mutated hematopoietic stem cell (HSC) expansion and blocks the progression of myeloproliferative neoplasms (MPNs). Lack of sympathetic stimulation of the MSC and HSC niche is associated with the development of MPNs.